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Huang

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(54) **BEARING DEVICE**

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(51) **Int. Cl.**
A47F 5/08 (2006.01)

(52) **U.S. Cl.** **211/107**

(58) **Field of Classification Search** 211/107, 211/196, 205, 133.4, 197, 163; 108/147.1; 248/165; 28/165
See application file for complete search history.

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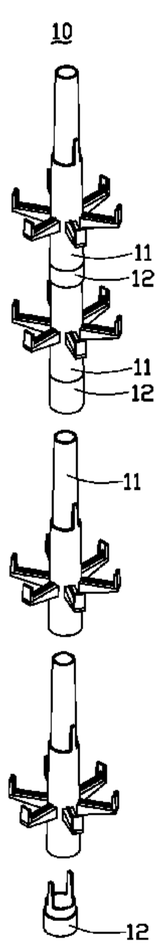
(57) **ABSTRACT**

A bearing device comprises a plurality of bearing members and a plurality of connecting members. The length of at least one connecting member having a different length from other connecting members. The connecting members connect the bearing members together, thus adjusting distance between adjacent bearing members by varying the length of the connecting members.

14 Claims, 3 Drawing Sheets



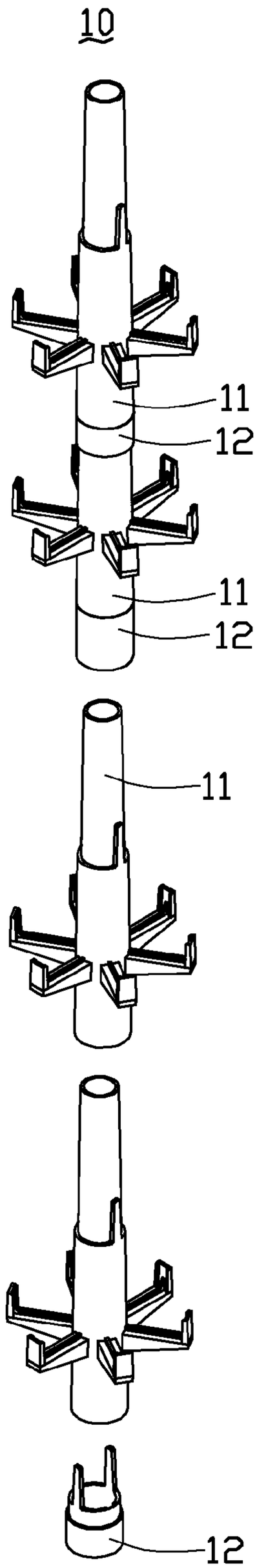


FIG. 1

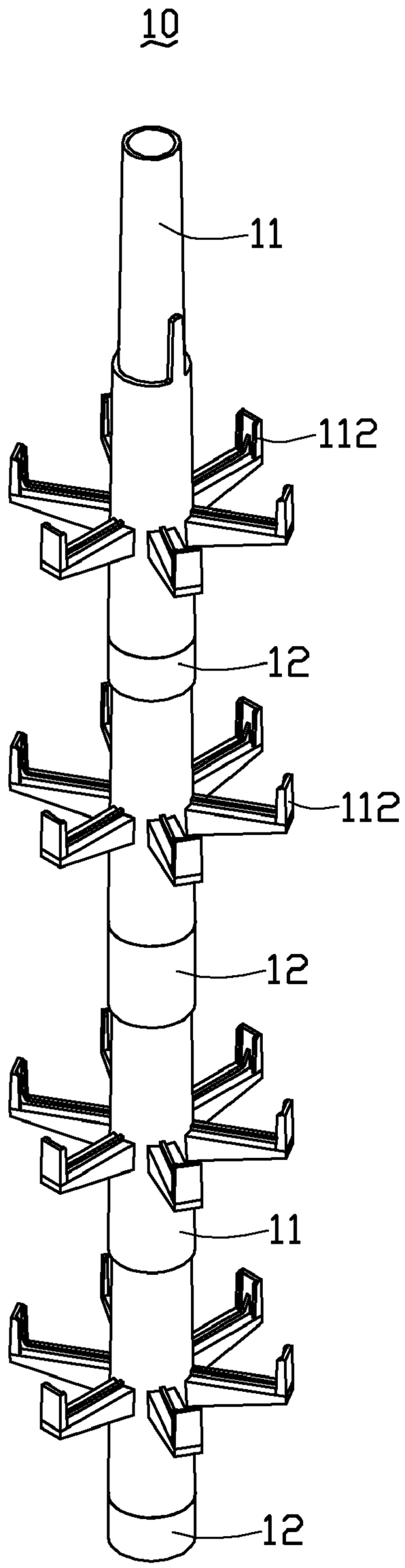


FIG. 2

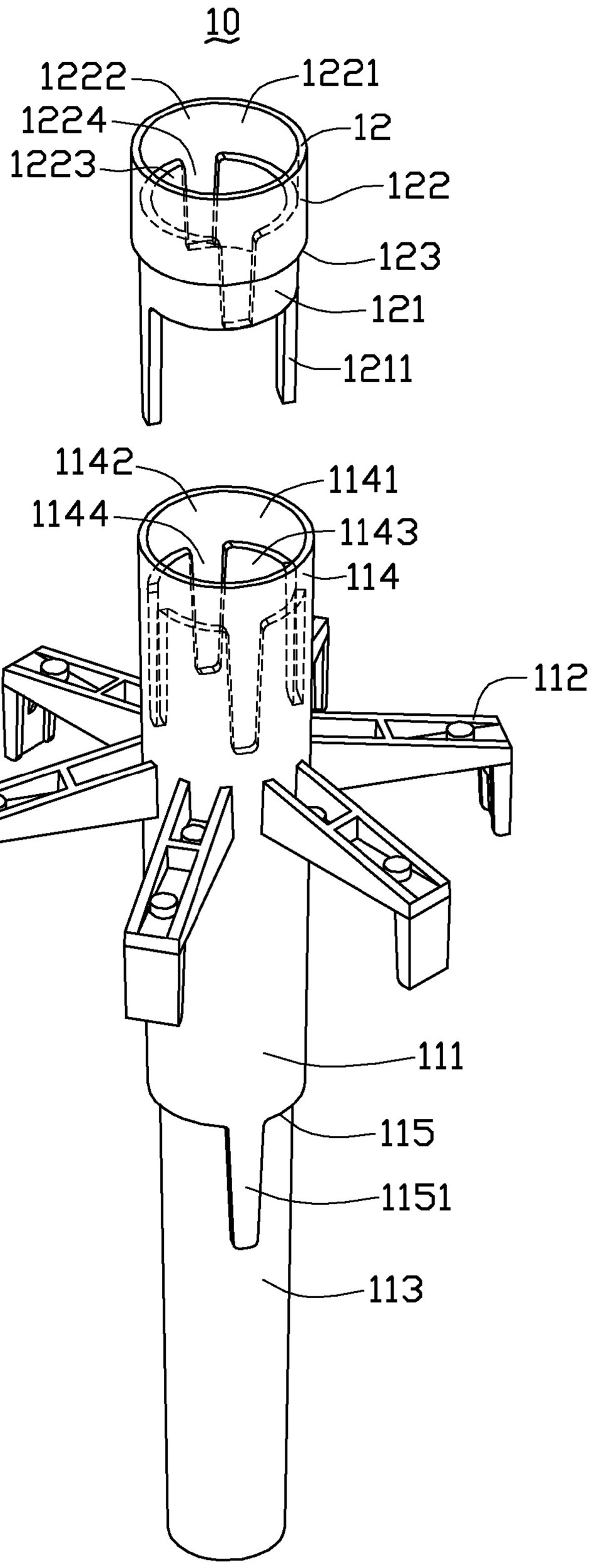

10
1222
1221
1224
12
1223
122
123
121
1211
1142
1141
1144
1143
114
112
111
115
1151
113

FIG. 3

BEARING DEVICE

BACKGROUND

1. Technical Field

The present disclosure relates to bearing devices and, particularly, to a bearing device used in surface treatment techniques.

2. Description of Related Art

With the development of technology, appearance of portable electronic devices e.g., mobile phones and notebooks has been greatly improved. Painting is an effective method to improve the appearance.

Usually, a plurality of portable electronic devices are fixed on a bearing device firstly, and then painted completely using sprays. A typical bearing device includes a plurality of bearing members. Each bearing member is used to bear a plurality of portable electronic devices. The bearing members are connected to each other. A distance between adjacent bearing members is slightly bigger than a size of one portable electronic device, thus avoiding interference between the portable electronic device and adjacent bearing members.

However, the distance between adjacent bearing members cannot be adjusted according to the size of the portable electronic device, thus limiting the amount of portable electronic devices to be fixed thereon, and influencing painting efficiency.

Therefore, there is room for improvement within the art.

BRIEF DESCRIPTION OF THE DRAWINGS

Many aspects of an bearing device can be better understood with reference to the following drawings. These drawings are not necessarily drawn to scale, the emphasis instead being placed upon clearly illustrating the principles of the present bearing device. Moreover, in the drawings like reference numerals designate corresponding sections throughout the several views.

FIG. **1** is an isometric, exploded view of a bearing device, in accordance with an exemplary embodiment.

FIG. **2** is an isometric, assembled view of the bearing device shown in FIG. **1**.

FIG. **3** is an isometric view of a bearing member and a connecting member shown in FIG. **2**.

DETAILED DESCRIPTION

The present bearing device is suitable for fixing a workpiece, e.g., mobile phone and notebook thereon in painting.

FIG. **1** shows an exemplary bearing device **10**. The bearing device **10** includes a plurality of bearing members **11** and connecting members **12**. The connecting members **12** are used to connect the bearing members **11** together.

Referring to FIG. **3**, each bearing member **11** includes a pole **111** and a plurality of bearing flakes **112**. The bearing flakes **112** equally and spacedly protrude from a peripheral wall of the pole **111**. In this embodiment, the bearing flake **112** is "L"-shaped, used to bear one portable electronic device thereon. The pole **111** includes a first connecting end **113** and a second connecting end **114** opposite to the first connecting end **113**. The first connecting end **113** is a pole, the second connecting end **114** is a hollow pole. The diameter of the second connecting end **14** is larger than that of the first connecting end **13**. The first connecting end **113** and the second connecting end **114** connect each other, thus forming a resisting wall **115**. The resisting wall **115** faces the first connecting end **113**. The resisting wall **115** includes two latching blocks

1151 symmetrically protruding therefrom. In this embodiment, the latching block **1151** is a rod. The second connecting end **114** defines a first latching slot **1141** with an interior peripheral wall **1142**. The interior peripheral wall **1142** includes four clamping blocks **1143**, forming a second latching slot **1144** between every two adjacent clamping blocks **1143**. In this embodiment, the pole **111** are becoming smaller and smaller in diameter from the second connecting end **114** to the first connecting end **113**, thus making the bearing members **11** connect each other in phase.

The connecting members **12** is generally a pole, and includes a male connecting end **121** and a female connecting end **122**. A diameter of the male connecting end **121** is smaller than the diameter of the female connecting end **122**, forming a ladder wall **123** therebetween. The male connecting end **121** includes two male connecting blocks **1211** symmetrically protruding therefrom. In this embodiment, the male connecting block **1211** is a rod. The female connecting end **122** is a hollow body, and defines a female connecting groove **1221** with an interior peripheral wall **1222**. The interior peripheral wall **1222** includes two protrusions **1223** symmetrically protruding therefrom, forming two clamping slots **1224** therebetween. The connecting members **12** can be provided in different lengths. Therefore, when using connecting members **12** with different lengths to connect two bearing members **11**, a distance between these two bearing members **11** can be changed.

Referring to FIG. **2**, to connect these bearing members **11**, the first connecting end **113** of a bearing member **11** is connected to the second connecting end **114** of another bearing member **11**, such that two latching blocks **1151** latch into two of the four second latching slots **1144**. In this way, the bearing members **11** can be connected together in sequence.

To adjust the distance between adjacent bearing members **11**, the connecting members **12** can be placed between every two bearing members **11**. For example, A male connecting end **121** of a connecting member **12** is inserted into a second connecting end **114** of a bearing member **11**, until the two male connecting blocks **1211** of the male connecting end **121** are latched into two of the four second latching slots **1144** of the second connecting end **114**. Then the female connecting end **122** of the same connecting member **12** is connected to a first connecting end **113** of another bearing member **11**, until the latching blocks **1151** of the first connecting end **113** are latched into two clamping slots **1224** of the female connecting end **122**. At this time, the ladder wall **123** resists the second connecting end **114**, and the resisting wall **115** resists the female connecting end **122**.

It is to be understood, the number of male connecting blocks **1211** of each connecting member **12** can be four. The number of the latching blocks **1151** can also be four.

The bearing device **10** can adjust the distance between adjacent bearing members **11** by changing one connecting member **12** for another one with a different length, thus bearing the most portable electronic devices at one time of painting, and improving painting efficiency.

It is to be understood, however, that even through numerous characteristics and advantages of the present disclosure have been set forth in the foregoing description, together with details of the structure and function of the disclosure, the disclosure is illustrative only, and changes may be made in detail, especially in matters of shape, size, and arrangement of sections within the principles of the disclosure to the full extent indicated by the broad general meaning of the terms, in which the appended claims are expressed.

What is claimed is:

1. A bearing device comprising:

a plurality of bearing members; and

a plurality of connecting members, at least one connecting member having a different length from other connecting members, the connecting members connecting the bearing members together, thus adjusting the distance between adjacent bearing members by varying the length of the connecting members;

wherein each bearing member includes a pole including a first connecting end and a second connecting end, the first connecting end has at least one latching block, the second connecting end defines at least one second latching slot; each connecting member includes a male connecting end and a female connecting end, the male connecting end has at least one male connecting block latched with said at least one second latching slot, the female connecting end defines at least one clamping slot, in which said at least one latching block is latched.

2. The bearing device as claimed in claim **1**, wherein each bearing member includes a plurality of bearing flakes, the bearing flakes equably and spacedly protruding from a peripheral wall of the pole, the bearing flakes for supporting portable electronic devices thereon.

3. The bearing device as claimed in claim **2**, wherein the bearing flake is an "L"-shaped slice.

4. The bearing device as claimed in claim **2**, wherein the first connecting end and the second connecting end connect each other, thus forming a resisting wall, the resisting wall faces the first connecting end.

5. The bearing device as claimed in claim **4**, wherein there is two said latching blocks symmetrically protruding from the resisting wall, the second connecting end defines a first latching slot with an interior peripheral wall, the interior peripheral wall includes four clamping blocks, forming a said second latching slot between every two adjacent clamping blocks.

6. The bearing device as claimed in claim **5**, wherein a diameter of the male connecting end is smaller than the diameter of the female connecting end, forming a ladder wall therebetween, the ladder wall resists the second connecting end, the resisting wall resists the female connecting end.

7. The bearing device as claimed in claim **6**, wherein there is two said male connecting blocks symmetrically protruding from the male connecting end, the male connecting blocks latch in the second latching slots, the female connecting end defines a female connecting groove with an interior peripheral wall, the interior peripheral wall includes two protrusions symmetrically protruding therefrom, forming two said clamping slots therebetween, the latching blocks latch in the clamping slots.

8. The bearing device as claimed in claim **1**, wherein the poles decrease in diameter from one end to the other end.

9. A bearing device comprising:

a plurality of bearing members; and

a plurality of connecting members, at least one connecting member having a different length from other connecting members, the connecting members connecting the bearing members together, thus the distances between adjacent bearing members can be different;

wherein each bearing member includes a pole, the pole includes a first connecting end and a second connecting end opposite to the first connecting end, the first connecting end and the second connecting end connect each other, thus forming a resisting wall, the resisting wall faces the first connecting end; the resisting wall includes two latching blocks symmetrically protruding therefrom, the second connecting end defines a first latching slot with an interior peripheral wall, the interior peripheral wall includes four clamping blocks, forming a second latching slot between every two adjacent clamping blocks, the latching blocks are inserted into the second latching slots.

10. The bearing device as claimed in claim **9**, wherein each bearing member includes a plurality of bearing flakes, the bearing flakes equably and spacedly protruding from a peripheral wall of the pole, the bearing flakes for supporting portable electronic devices thereon.

11. The bearing device as claimed in claim **10**, wherein the bearing flake is an "L"-shaped slice.

12. The bearing device as claimed in claim **9**, wherein the connecting members includes a male connecting end and a female connecting end, a diameter of the male connecting end is smaller than the diameter of the female connecting end, forming a ladder wall therebetween, the ladder wall resists the second connecting end, the resisting wall resists the female connecting end.

13. The bearing device as claimed in claim **12**, wherein the male connecting end includes two male connecting blocks symmetrically protruding therefrom, the male connecting blocks latch in the second latching slots, the female connecting end defines a female connecting groove with an interior peripheral wall, the interior peripheral wall includes two protrusions symmetrically protruding therefrom, forming two clamping slots therebetween, the latching blocks latch in the clamping slots.

14. The bearing device as claimed in claim **9**, wherein the poles decrease in diameter from one end to the other end.

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